

REMARKS

The Final Office Action of May 21, 2003, has been received and reviewed. Claims 1-31 are pending in the application. Claims 5, 7 and 22 have been withdrawn from consideration and claims 1-4, 6, 8-21 and 23-31 stand rejected. This amendment is submitted in conjunction with a Request for Continued Examination under 37 C.F.R. § 1.114. Claims 1-4, 6, 10-19, 21 and 27-29 have been amended and new claims 32 and 33 have been added as set forth herein. All amendments and cancellations are made without prejudice or disclaimer. Reconsideration is respectfully requested.

Rejections under 35 U.S.C. § 112, second paragraph

Claims 1-4, 6, 10-21 and 23-31 stand rejected under 35 U.S.C. § 112, second paragraph, as assertedly being indefinite for failing to particularly point out and distinctly claim the subject matter that applicants regard as the invention. At least partially in view of the amendments, applicants respectfully traverse the rejections.

Specifically, it was thought that the claims including the phrases “functional part” and “substantially homologous,” and the claims depending therefrom, were indefinite. Although applicants do not agree that the phrases are indefinite, to expedite prosecution, the phrases have been removed from the claims.

Claim 17 was thought to be indefinite for reciting the phrase “genomically unmodified.” The phrase “genomically unmodified” has been removed to expedite prosecution.

In claim 21, it was thought to be unclear whether the scientific names in the parentheses are intended as claim limitations and it was suggested by the Examiner that only the scientific names be recited. Although applicants do not agree that claim 21 is indefinite, to expedite prosecution, claim 21 has been amended in accordance with the suggestion of the Examiner.

Although applicants do not agree with the other indefinite rejections, to expedite prosecution, the claims including the phrase “corresponding to” were amended to recite “encoding” in place of “corresponding to” in accordance with the suggestions of the Examiner. Further, in claims 1 and 2, “includes” was replaced with “comprises,” in claims 12 and 13, “a” was replaced with “the,” and in claim 14, a recitation of “oil” was deleted. With regard to claim

19, it was amended to remove "SEQ ID NO: 1" and "SEQ ID NO: 3" and to recite in part "a sequence of the polypeptide comprises SEQ ID NO: 2."

Accordingly, reconsideration and withdrawal of the indefinite rejections of claims 1-4, 6, 10-21 and 23-31 are requested.

Rejections under 35 U.S.C. § 101

Claims 1-4, 6, 10-21, 23, 25 and 27 stand rejected under 35 U.S.C. § 101 as assertedly lacking a well asserted utility or a well established utility. Applicants respectfully traverse the rejections as hereinafter set forth.

It was thought that the recitation of a "functional part of SEQ ID NO: 1 or 3" lacked a specific asserted or a well established utility since it was thought that the phrase can be interpreted as meaning one base pair. The Examiner indicated that adding a phrase indicating that the functional part has diacylglycerol acyltransferase activity would overcome the utility rejections.

Although applicants do not agree that the claims lack utility, claims 1, 3, 10, 11, 19 and 23 have been amended to recite a nucleic acid sequence encoding the polypeptide of SEQ ID NO: 2. Thus, claims 1, 3, 10, 11, 19 and 23 and the claims depending therefrom should have utility.

With regard to claims 2 and 4, they have been amended to recite in part wherein the nucleic acid sequence "comprises SEQ ID NO: 1, SEQ ID NO: 3, or a fragment of SEQ ID NO: 1 or 3 having 90% identity with SEQ ID NO: 1 or 3, wherein the fragment encodes the polypeptide having diacylglycerol acyltransferase activity." Since the phrase "wherein the fragment encodes the polypeptide having diacylglycerol acyltransferase activity" is directed to the fragment, claims 2 and 4 should have utility.

With further regard to SEQ ID NO: 3, it was thought that "applicants have not demonstrated that the polypeptide encoded by SEQ ID NO: 3 has the same activity as the polypeptide encoded by SEQ ID NO: 1." (Final Office Action mailed May 21, 2003, page 6). However, as stated in the specification "this additional exon 2 sequence in the AS11 transcript would result in an altered DGAT protein with the 27 amino acid insertion ... the inventor's data

shows that this insertion results in a 40-70% reduction in DGAT activity.” (Specification, page 22, lines 11-15). Thus, the product of SEQ ID NO: 3 does have utility.

Reconsideration and withdrawal of the utility rejections of claims 1-4, 6, 10-21, 23, 25 and 27 are requested.

Rejections under 35 U.S.C. § 112, first paragraph

Claims 1-4, 6, 10-21, 23, 25 and 27

Claims 1-4, 6, 10-21, 23, 25 and 27 stand rejected under 35 U.S.C. § 112, first paragraph, as assertedly lacking enablement for claims broadly drawn to an isolated DNA molecule comprising a part of SEQ ID NO: 1 or 3 or a sequence that is substantially homologous to SEQ ID NO: 1 or 3. Applicants respectfully traverse the rejections as hereinafter set forth.

Although applicants do not agree that the claims are not enabled, to expedite prosecution, claims 1, 3, 10, 11, 19 and 23 have been amended to remove the elements directed towards SEQ ID NO: 1 or 3, or a functional fragment of SEQ ID NO: 1 or 3. As amended, the claims are directed to a nucleic acid encoding a polypeptide of SEQ ID NO: 2. Accordingly, claims 1, 3, 10, 11, 19 and 23, and the claims depending therefrom, should be enabled.

Claims 2 and 4 are directed to an isolated nucleic acid molecule and a vector including a nucleic acid sequence, respectively, wherein the nucleic acid molecule and the nucleic acid sequence “encod[e] a polypeptide having diacylglycerol acyltransferase activity.” Claims 2 and 4 also recite in part wherein the sequence “comprises SEQ ID NO: 1, SEQ ID NO: 3, or a fragment of SEQ ID NO: 1 or 3 having 90% identity with SEQ ID NO: 1 or 3, wherein the fragment encodes the polypeptide having diacylglycerol acyltransferase activity.” Thus, the phrases “functional fragment” and “substantially homologous” have been removed from claims 2 and 4 and as amended, claims 2 and 4 should be enabled.

The Office Action contended that “SEQ ID NO: 3 is not identical to the polypeptide encoded by SEQ ID NO: 1, even though it is presumably the genomic sequence of SEQ ID NO: 1.” (Final Office Action, at page 8). As stated in the specification “[t]he inventors’ data shows that this insertion [of SEQ ID NO: 3] results in a 40-70% reduction in DGAT activity throughout seed development.” (Specification at page 22, lines 14-15). Accordingly, SEQ ID NO: 3 does

encode a protein having diacylglycerol acyltransferase activity and claims 2 and 4 and the claims depending therefrom should be enabled.

Accordingly, reconsideration and withdrawal of the enablement rejections of claims 1-4, 6, 10-21, 23, 25 and 27 are requested.

Claims 8 and 9

Claims 8 and 9 stand rejected under 35 U.S.C. § 112, first paragraph, as assertedly containing subject matter that was not described in the specification in such a way as to enable one skilled in the art to make or use the claimed invention. Applicants respectfully traverse the rejections as hereinafter set forth.

A declaration under 37 C.F.R. §§ 1.801-1.809 has been forwarded to the National Research Council of Canada stating that access to the constructs of claims 8 and 9 will be made available and will be forwarded to the office as soon as it is signed and received. Thus, reconsideration and withdrawal of the written description rejections of claims 8 and 9 are requested.

Claims 1-4, 6, 10-21 and 23

Claims 1-4, 6, 10-21 and 23 stand rejected under 35 U.S.C. § 112, first paragraph, as assertedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of the claimed invention. Applicants respectfully traverse the rejections as hereinafter set forth.

Specifically, it was thought that without the location of the start and stop codons, there is no evidence of a full length sequence and that each reading frame results in a different polypeptide sequence. Applicants respectfully submit that the location of start and stop codons is not required to comply with the written description requirement. Since the applicants have provided a structure, *i.e.*, the sequence, and a function, *i.e.*, the ability to encode a polypeptide having diacylglycerol acyltransferase activity, the written description requirement is satisfied. (See, M.P.E.P. § 2163).

With regard to the phrase "substantially homologous," the phrase has been removed from the claims.

Accordingly, reconsideration and withdrawal of the written description rejections of claims 1-4, 6, 10-21 and 23 are requested.

Rejections under 35 U.S.C. § 102

Claims 1-4, 6, 10-21 and 23 stand rejected under 35 U.S.C. § 102(b) as assertedly being anticipated by Cahoon et al. Claims 1-4 stand rejected under 35 U.S.C. 102(b) as assertedly being anticipated by Newman et al. Applicants respectfully traverse the rejections as hereinafter set forth.

As amended, each of independent claims 1, 3, 10, 11, 19 and 23 is directed to a nucleic acid encoding a polypeptide of SEQ ID NO: 2, wherein the polypeptide has diacylglycerol acyltransferase activity. Since Cahoon et al. and Newman et al. do not disclose a nucleic acid encoding a polypeptide of SEQ ID NO: 2, claims 1, 3, 10, 11, 19 and 23 and the claims depending therefrom are not anticipated.

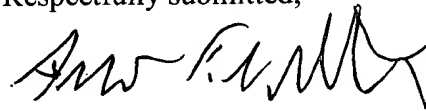
With regard to independent claims 2 and 4, they are directed to an isolated nucleic acid molecule and a vector including a nucleic acid sequence, respectively, wherein the nucleic acid molecule and the nucleic acid sequence "encod[e] a polypeptide having diacylglycerol acyltransferase activity." Claims 2 and 4 further recite in part a sequence "comprises SEQ ID NO: 1, SEQ ID NO: 3, or a fragment of SEQ ID NO: 1 or 3 having 90% identity with SEQ ID NO: 1 or 3." Since Cahoon et al. and Newman et al. do not disclose the claimed nucleic acid sequences, claims 2 and 4, and the claims depending therefrom, are not anticipated.

Thus, reconsideration and withdrawal of the anticipation rejections of claims 1-4, 6, 10-21 and 23 are requested.

CONCLUSION

In view of the foregoing amendments and remarks, the applicants respectfully submit that the claims define patentable subject matter. The amendments to the claims should be entered since the amendment is submitted in conjunction with a Request for Continued Examination. If any questions remain after consideration of the foregoing, the Office is kindly requested to contact applicants' attorney at the address or telephone number given herein.

Respectfully submitted,



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